| ivity Assay Preferred Indication Y | Activities associated with Apoptosis activity, NF-kB Soluble CD40 polypeptides apoptosis, NF-kB activation, activation, and B and T cell comay be useful for inhibiting and co-stimulation of immune stimulation can be determined using apoptosis, NF-kB activation, assays known in the art. Moore et and/or co-stimulation of al., 1999, Science, 285(5425):260-3; immune cells such as B and T Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. | Activities associated with Apoptosis activity, NF-kB Immune Disorders, apoptosis, NF-kB activation, activation, and B and T cell co- Lymphomas, X-linked and co-stimulation of immune stimulation can be determined using hypohidrotic ectodermal assays known in the art: Moore et dysplasia al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | Activities associated with Apoptosis activity, NF-kB Immune Disorders, apoptosis, NF-kB activation, and B and T cell collamination of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. |
|------------------------------------|---|---|---|
| Exemplary Activity Assay | with Apoptosis activity, NF-kB tion, activation, and B and T cell conmune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol Methods | th Apoptosis activity, NF-kB activation, and B and T cell costimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | associated with Apoptosis activity, NF-kB activation, activation, and B and T cell coulation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. |
| Biological Activity | Activities associated with apoptosis, NF-kB activation, and co-stimulation of immune cells such as T and B cells. | Activities associated with Apoptosis activity, apoptosis, NF-kB activation, and co-stimulation of immune stimulation can be determited assets known in the art: al., 1999, Science, 285(542, Song HY etal., 1997 Proc Sci U S A 94(18):9792-6 and Nissen-Meyer, Immunol. Methods. | Activities associated with Apoptosis activity, NF-kB apoptosis, NF-kB activation, activation, and B and T cell coand co-stimulation of immune stimulation can be determined using assays known in the art. Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. |
| PCT/Patent Number | WO9945944 | - | WO9512673 |
| Exemplary Identifier | GeneSeq Accession Y33499 | Genbank Accession AAD50077 | GeneSeq Accession R74737 |
| Therapeutic Protein X | CD40 | EDAR | OX40; ACT-4 |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|--|--------------------------------|
| TACI | GeneSeq | WO9839361 | Activities associated with | associated with Apoptosis activity, NF-kB Soluble TACI receptor | Soluble TACI receptor |
| | Accession | | apoptosis, NF-kB activation, | apoptosis, NF-kB activation, activation, and B and T cell co-polypeptides may be useful for | polypeptides may be useful for |
| | W75783 | | and co-stimulation of immune | and co-stimulation of immune stimulation can be determined using inhibiting apoptosis, NF-kB | inhibiting apoptosis, NF-kB |
| | | | cells such as T and B cells. | assays known in the art: Moore et activation, and/or co- | activation, and/or co- |
| | | | | al., 1999, Science, 285(5425):260-3; stimulation of immune cells | stimulation of immune cells |
| | | | | Song HY etal., 1997 Proc Natl Acad such as B and T cells. | such as B and T cells. |
| | | | | Sci U S A 94(18):9792-6; Epsevik | |
| | | | | and Nissen-Meyer, 1986, J. | |
| | | | : | Immunol. Methods. | |
| TNF-R | GeneSeq | AU9058976 | Activities associated with Apoptosis activity, | Apoptosis activity, NF-kB | NF-kB Soluble TNF-R receptor |
| • | Accession R10986 | | apoptosis, NF-kB activation, | apoptosis, NF-kB activation, activation, and B and T cell co-polypeptides may be useful for | polypeptides may be useful for |
| | | | and co-stimulation of immune | and co-stimulation of immune stimulation can be determined using inhibiting apoptosis, NF-kB | inhibiting apoptosis, NF-kB |
| - | | | cells such as T and B cells. | assays known in the art: Moore et activation, and/or co- | activation, and/or co- |
| | | | | al., 1999, Science, 285(5425):260-3; stimulation of immune cells | stimulation of immune cells |
| | | | | Song HY etal., 1997 Proc Natl Acad such as B and T cells. | such as B and T cells. |
| | | | | Sci U S A 94(18):9792-6; Epsevik | |
| - | | | | and Nissen-Meyer, 1986, J. | |
| | | | | Immunol. Methods. | |
| TNF-RII; TNF | GeneSeq | EP418014 | Activities associated with | Activities associated with Apoptosis activity, NF-kB Soluble TNFR-II receptor | Soluble TNFR-II receptor |
| p75 Receptor; | Accession R11141 | | apoptosis, NF-kB activation, | activation, and B and T cell co- | polypeptides may be useful for |
| Death Receptor | | | and co-stimulation of immune | and co-stimulation of immune stimulation can be determined using inhibiting apoptosis, NF-kB | inhibiting apoptosis, NF-kB |
| | | | cells such as T and B cells. | assays known in the art: Moore et activation, and/or co- | activation, and/or co- |
| | | | | al., 1999, Science, 285(5425):260-3; stimulation of immune cells | stimulation of immune cells |
| | | | | Song HY etal., 1997 Proc Natl Acad such as B and T cells. | such as B and T cells. |
| | | | | Sci U S A 94(18):9792-6; Epsevik | |
| | | | | and Nissen-Meyer, 1986, J. | |
| | | | | Immunol. Methods. | |

| ity Assay Preferred Indication Y | ty, NF-kB Immune Disorders, Cancers and T cell co-termined using art: Moore et 5(5425):260-3; Proc Natl Acad 992-6; Epsevik 1986, J. | Activities associated with Apoptosis activity, NF-kB inflammatory disorders, apoptosis, NF-kB activation, activation, and B and T cell conmunologic disorders, cancer and co-stimulation of immune stimulation can be determined using assays known in the art. Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | Activities associated with Apoptosis activity, NF-kB inflammatory disorders, apoptosis, NF-kB activation, activation, and B and T cell co-immunologic disorders, cancer and co-stimulation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; |
|----------------------------------|---|--|---|
| Exemplary Activity Assay | Apoptosis activity, NF-kB activation, and B and T cell costimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | Apoptosis activity, NF-kB activation, and B and T cell costimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | associated with Apoptosis activity, NF-kB IF-kB activation, activation, and B and T cell collation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(3425):260-3; |
| Biological Activity | Activities associated with Apoptosis activity, NF-kB apoptosis, NF-kB activation, activation, and B and T cell coand co-stimulation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | Activities associated with Apoptosis activity, NF-kB apoptosis, NF-kB activation, activation, and B and T cell coand co-stimulation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | Activities associated with Apoptosis activity, NF-kB apoptosis, NF-kB activation, activation, and B and T cell coand co-stimulation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; |
| PCT/Patent Number | WO9911791 | BP205038 | EP619372 |
| Exemplary Identifier | GeneSeq Accession W93581 | GeneSeq Accession P60074 | GeneSeq Accession R62463 |
| Therapeutic Protein X | hAPO-4; TROY | TNF-alpha precursor | Human TNF. alpha |

| Preferred Indication Y | NF-kB inflammatory disorders, | apoptosis, NF-kB activation, activation, and B and T cell co-immunologic disorders, cancer and co-stimulation of immune stimulation can be determined using | re et | 00-3; | sevik | | NF-kB inflammatory disorders, | ð | sing | re et | 50-3; | Acad | sevik | . r | | NF-kB inflammatory disorders, | apoptosis, NF-kB activation, activation, and B and T cell co-immunologic disorders, cancer | sing | re et | 50-3; | Acad | sevik | |
|--------------------------|--------------------------------------|---|-----------------------------------|---|----------------------------------|----------------------------|--|------------------------------------|--|-----------------------------------|--------------------------------------|------------------------------------|----------------------------------|----------------------------|-------------------|--------------------------------------|--|--|-----------------------------------|--------------------------------------|------------------------------------|----------------------------------|--|
| Exemplary Activity Assay | Apoptosis activity, NF | apoptosis, NF-kB activation, activation, and B and T cell co- and co-stimulation of immune stimulation can be determined using | assays known in the art: Moore et | an, 1999, Science, 283(3423):260-3; Song HY etal., 1997 Proc Natl Acad | Sci U S A 94(18):9792-6; Epsevik | and Nissen-Meyer, 1986, J. | 1 | activation, and B and T cell | and co-stimulation of immune stimulation can be determined using | assays known in the art: Moore et | al., 1999, Science, 285(5425):260-3; | Song HY etal., 1997 Proc Natl Acad | Sci U S A 94(18):9792-6; Epsevik | and Nissen-Meyer, 1986, J. | Immunol. Methods. | Apoptosis activity, NF | activation, and B and T cell | and co-stimulation of immune stimulation can be determined using | assays known in the art: Moore et | al., 1999, Science, 285(5425):260-3; | Song HY etal., 1997 Proc Natl Acad | Sci U S A 94(18):9792-6; Epsevik | |
| Biological Activity | Activities associated with Apoptosis | apoptosis, NF-kB activation, and co-stimulation of immune | cells such as T and B cells. | | | | Activities associated with Apoptosis activity, | apoptosis, NF-kB activation, | and co-stimulation of immune | cells such as T and B cells. | | | | | | Activities associated with Apoptosis | apoptosis, NF-kB activation, | and co-stimulation of immune | cells such as T and B cells. | | | | |
| PCT/Patent Number | EP563714 | | | | | | WO0064479 | | | | | | | | | EP250000 | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession R42679 | | | | | GeneSeg | beta (LT-alpha) Accession B37799 | - | | | | | | | GeneSeq | Accession P70107 | | | | | | |
| Therapeutic Protein X | Human TNF- | alpha | | | | | Human TNF- | beta (LT-alpha) | • | | | | | | | LT-alpha | | | | | | | |

| | ers, | Jeer Jeer | | _ | | | | | ers, | ers, | | | | | | | | ers, | cer | | | | _ | | | |
|--------------------------|--------------------|--|-----------------------------------|--------------------------------------|------------------------------------|----------------------------------|----------------------------|-------------------|--|--|---|-----------------------------------|--------------------------------------|------------------------------------|----------------------------------|----------------------------|-------------------|--------------------------|--|--|-----------------------------------|--------------------------------------|------------------------------------|----------------------------------|------------------------|-------------------|
| cation) | disorders, | ders, car | | | | | | | disorders, | disorders, | ; mass, | | | | | | | disorders, | ders, can | | | | | | | |
| Preferred Indication Y | tory | gic disor. | | | | | | | tory | ogic | s of bone | | | | | | | tory | ic disor | | | | | | | |
| Preferi | NF-kB inflammatory | golounw | | | | | | | NF-kB inflammatory | munol | icer, loss | | | | | | | NF-kB inflammatory | golounu | | | | | | | |
| | kB inf | co- ing | et c |) . 3; | cad | vik | J. | _ | kB inf | co- im | ing car | e et |) . 3; | cad | vik | <u>.</u> | | kB inf | co- imi | ing | e et |)-3; | cad | vik | <u>.</u> | _ |
| Assay | NF. | T cell nined us | : Moore | 425):26(| : Natl A | -6; Epse | 1986, | ļ | NF. | T cell | nined us | : Moore | 425):26(| : Natl A | -6; Epse | 1986, | | NF | T cell | ained us | : Moore | 125):26(| : Natl A | ·6; Epse | 1986, | |
| Exemplary Activity Assay | activity, | B and e detern | the art | , 285(5 | 997 Proc | 8):9792- | eyer, | ls. | ctivity, | B and | e detern | the art | 3, 285(5 | 997 Proc | 8):9792- | eyer, | S. | stivity, | B and | e detern | the art | 3, 285(5 | 997 Proc | 8):9792- | Nissen-Meyer, 1986, J. | ß. |
| nplary | is ac | n, and on can b | ni nwot | Science | etal., 19 | A 94(1 | ssen-M | Methoc | is a | n, and | n can b | nown in | Science | etal., 19 | A 94(1 | ssen-M | Methoc | is ac | n, and | n can b | nown in | Science | etal., 19 | A 94(1 | ssen-M | Methoc |
| Exer | with Apoptosis | activation, and B and I cell co- immunologic disorders, cancer stimulation can be determined using | assays known in the art: Moore et | al., 1999, Science, 285(5425):260-3; | Song HY etal., 1997 Proc Natl Acad | Sci U S A 94(18):9792-6; Epsevik | and Nissen-Meyer, 1986, J. | Immunol. Methods. | A poptos | etivation | stimulatic | assays known in the art: Moore et | al., 1999, Science, 285(5425):260-3; | Song HY etal., 1997 Proc Natl Acad | Sci U S A 94(18):9792-6; Epsevik | and Nissen-Meyer, 1986, J. | Immunol. Methods. | with Apoptosis activity, | ıctivatio | stimulatic | assays known in the art: Moore et | al., 1999, Science, 285(5425):260-3; | Song HY etal., 1997 Proc Natl Acad | Sci U S A 94(18):9792-6; Epsevik | and Ni | Immunol. Methods. |
| | with | tion, | | | <u> </u> | | | _ | with / | tion, | mune | | | <u> </u> | - | | | with / | tion, | mune | | | <u></u> | <u></u> | | |
| ctivity | associated | activa 1 of in | B cells. | | | | | | iated | activa | n of im | B cells. | | • | | | | associated | actival | n of im | B cells. | | | | | |
| Biological Activity | asso(| NF-KB nulatio | T and | | | | | | assoc | NF-kB | nulation | Tand | | | | | | assoc | NF-kB | nulatior | Tand I | | | | | |
| Biol | Activities | apoptosis, NF-KB activation, activation, and B and I cell coand co-stimulation of immune stimulation can be determined using | cells such as T and B cells. | | | | | | Activities associated with Apoptosis activity, | apoptosis, NF-kB activation, activation, and B and T cell co-immunologic | and co-stimulation of immune stimulation can be determined using cancer, loss of bone mass, | cells such as T and B cells. | | | | | | Activities | apoptosis, NF-kB activation, activation, and B and T cell co-immunologic disorders, cancer | and co-stimulation of immune stimulation can be determined using | cells such as T and B cells. | | | | | |
| mber | | <u>a</u> a | <u>.</u> | | | | | | | a | <u>_a</u> | <u> </u> | • | | | | | | В | ď | <u> </u> | - | | | | |
| tent Nu | WO9413808 | | | | | | | | W09846751 | | | | | | | | | W09903999 | | | | | | | | |
| PCT/Patent Number | M | | | | | | | | W | | | | | | | | | M | | | | | | | | |
| lary ïer | eq | K36869 | | | | | | | ed | ion | 95 | | | | | | | bə | ion | 71 | | | | | | |
| Exemplary Identifier | GeneSeq | Accession K30869 | | | | | | | GeneSeq | Access | W831 | | | | | | | GeneSeq | Accession | W98071 | | | | | | |
| fic X | | A A | _ | | - | | | 1 | | | | | | | | | \dashv | | | | | | | | | \dashv |
| Fherapeutic Protein X | LT-beta | | | | | | | | OPGL | | | | | | | | | FasL | | | | | | | | |
| | | | | | | | | | | | | | | | | | _ | | | | | | | _ | | |

| | Exemplary Identifier | PCT/Patent Number | ا دسجا | ry Activity As | iğ l |
|---|--------------------------------|-------------------|--|--|---|
| i | Geneseq Accession W95041 | W 09903998 | Activities associated with Apoptosis apoptosis, NF-kB activation, activation, ar and co-stimulation of immune stimulation can assays known al., 1999, Scie Song HY etal. Sci U S A 9 and Nissen Immunol. Met | Apoptosis activity, activation, and B and T stimulation can be determine assays known in the art: N al., 1999, Science, 285(5425 Song HY etal., 1997 Proc N; Sci U S A 94(18):9792-6; and Nissen-Meyer, 19 Immunol. Methods. | NF-kB inflammatory disorders, cell co- inmunologic disorders, cancer ed using loore et 1):260-3; atl Acad Epsevik 86, J. |
| 7 | GeneSeq Accession R50121 | WO9405691 | Activities associated with Apoptosis activity, apoptosis, NF-kB activation, activation, and B and T and co-stimulation of immune stimulation can be determined as a such as T and B cells. assays known in the art. assays k | Apoptosis activity, activation, and B and T stimulation can be determin assays known in the art: N al., 1999, Science, 285(542: Song HY etal., 1997 Proc N Sci U S A 94(18):9792-6; and Nissen-Meyer, 15 Immunol. Methods. | NF-kB inflammatory disorders, cell co- immunologic disorders, cancer ed using floore et 5):260-3; atl Acad Epsevik 86, J. |
| 7 | GeneSeq Accession R45007 | W09324135 | Activities associated with apoptosis, NF-kB activation, and co-stimulation of immune cells such as T and B cells. | Activities associated with Apoptosis activity, NF-kB inflammatory disorders apoptosis, NF-kB activation, activation, and B and T cell columnum stimulation can be determined using assays known in the art. Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | NF-kB inflammatory disorders, cell columnologic disorders, cancer ed using foore et (1.260-3; all Acad Epsevik 86, J. |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------------------|--------------------------------|-------------------|---|---|--|
| CD40L | GeneSeq Accession R85486 | WO9529935 | Activities associated with Apoptosis apoptosis, NF-kB activation, activation, a activation, a stimulation of immune stimulation coells such as T and B cells. al., 1999, Sci al., 1999, Sci Sci U S A 5 and Nisser Immunol. Me | | NF-kB inflammatory disorders, cell co-immunologic disorders, cancer and using Moore et 5):260-3; hatl Acad i Epsevik 986, J. |
| 4-1BB ligand | GeneSeq Accession W26657 | USS674704 | Activities associated with apoptosis, NF-kB activation, and co-stimulation of immune cells such as T and B cells. | Activities associated with Apoptosis activity, NF-kB inflammatory disorders apoptosis, NF-kB activation, activation, and B and T cell columnulation of immune stimulation can be determined using assays known in the art: Moore et al., 1999, Science, 285(5425):260-3; Song HY etal., 1997 Proc Natl Acad Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | NF-kB inflammatory disorders, cell co- immunologic disorders, cancer ted using Moore et 5):260-3; latl Acad Epsevik 886, J. |
| FAS Ligand Inhibitory Protein (DcR3) | GeneSeq Accession B19335 | WO0058465 | Activities associated with apoptosis, NF-kB activation, and co-stimulation of immune cells such as T and B cells. | Activities associated with Apoptosis activity, NF-kB Soluble DcR3 polypeptides apoptosis, NF-kB activation, activation, and B and T cell co- may be useful for inhibiting and co-stimulation of immune stimulation can be determined using apoptosis, NF-kB activation, assays known in the art: Moore et and/or co-stimulation of al., 1999, Science, 285(5425):260-3; immune cells such as B and T Song HY etal., 1997 Proc Natl Acad cells. Sci U S A 94(18):9792-6; Epsevik and Nissen-Meyer, 1986, J. Immunol. Methods. | Soluble DcR3 polypeptides may be useful for inhibiting apoptosis, NF-kB activation, and/or co-stimulation of immune cells such as B and T cells. |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--------------------------------------|--|-------------------------------|
| OX40L | GeneSeq | WO9521915 | Activities associated with Apoptosis | Apoptosis activity, NF-kB | NF-kB inflammatory disorders, |
| | Accession R79903 | | apoptosis, NF-kB activation, | apoptosis, NF-kB activation, activation, and B and T cell co-immunologic disorders, cancer | immunologic disorders, cancer |
| | - | | and co-stimulation of immune | and co-stimulation of immune stimulation can be determined using | |
| | | | cells such as T and B cells. | assays known in the art: Moore et | |
| | | | | al., 1999, Science, 285(5425):260-3; | |
| | | | | Song HY etal., 1997 Proc Natl Acad | |
| | | | | Sci U S A 94(18):9792-6; Epsevik | |
| | | | | and Nissen-Meyer, 1986, J. | |
| | | | | Immunol. Methods. | |
| Protease | GeneSeq | WO9106561 | Peptides that inhibit the | HIV protease activities are known in HIV, inflammatory disorders, | HIV, inflammatory disorders, |
| inhibitor | Accessions | | function/binding of HIV | the art: HIV protease assays: | immunologic disorders, |
| peptides | R12435, R12436, | | | EP0387231. One can modify the | cancer, viral infections |
| | R12437, R12438, | | | assay to look for inhibition using | |
| | R12439, R12440, | | | any of the disclosed protease | |
| | and R1244 | | | inhibitor polypeptides. | |
| Retroviral | GeneSeq | EP387231 | Peptides that inhibit the | HIV protease activities are known in | HIV, inflammatory disorders, |
| protease | Accessions | | function/binding of HIV | the art: HIV protease assays: | immunologic disorders, |
| inhibitors | R06660, R06661, | | | EP0387231. One can modify the | cancer, viral infections |
| | R06662, R06663, | | | assay to look for inhibition using | |
| | R06664, R06665, | | | any of the disclosed protease | |
| | R06666, R06667, | | | inhibitor polypeptides. | |
| | R06668, R06669, | | | | |
| | R06670, R06671, | | | | |
| | R06672, R06673, | | | | |
| - | R06674, R06675, | | | | |
| | and R06676 | | | | |

| Preferred Indication Y | HIV, inflammatory disorders, immunologic disorders, cancer, viral infections |
|--------------------------|--|
| Exemplary Activity Assay | HIV protease activities are known in the art: HIV protease assays: EP0387231. One can modify the assay to look for inhibition using any of the disclosed protease inhibitor polypeptides. |
| Biological Activity | function/binding of HIV |
| PCT/Patent Number | WO9301828 |
| Exemplary Identifier | GeneSeq Accessions R59293, R59294, R59293, R59294, R59298, R59299, R59300, R59301, R59302, R59301, R59302, R59303, R59304, R59303, R59304, R59313, R59314, R59313, R59314, R59313, R59314, R59313, R59318, R59313, R59324, R59326, R59336, R59333, R59334, R59344, R59349, R59344, R59349, R59346, R59349, R59348, R59349, |
| Therapeutic Protein X | HIV protease inhibiting peptides |

| Preferred Indication Y | HIV, inflammatory disorders, immunologic disorders, cancer, viral infections | HIV, inflammatory disorders, immunologic disorders, cancer, viral infections |
|--------------------------|--|---|
| Exemplary Activity Assay | HIV protease activities are known in the art: HIV protease assays: EP0387231. One can modify the assay to look for inhibition using any of the disclosed protease inhibitor polypeptides. | HIV protease activities are known in the art: HIV protease assays: EP0387231. One can modify the assay to look for inhibition using any of the disclosed protease inhibitor polypeptides. |
| Biological Activity | Peptides that inhibit the function/binding of HIV | Peptides that inhibit the function/binding of HIV |
| PCT/Patent Number | DE4412174 | WO9959615 |
| Exemplary Identifier | GeneSeq Accessions R86326, R86327, R86332, R86332, R86334, R86331, R86334, R86334, R86334, R86337, R86344, R86341, R86344, R86347, R86346, R86347, R86346, R86347, R86352, R86351, R86352, R86351, R86354, R86357, R86356, R86357, R86356, R86357, R86356, R86357, R86356, R86357, R86364, R86363, R86364, R86363, R86364, R86363, R86364, R86363, R86364, R86363, R86364, R86363, R86366, R86360, | GeneSeq Accession Y89687 |
| Therapeutic Protein X | HIV-1 protease inhibitors | HIV Inhibitor Peptide |

| Preferred Indication Y | HIV, inflammatory disorders, immunologic disorders, cancer, viral infections | HIV, inflammatory disorders, immunologic disorders, cancer, viral infections | Immune disorders, particularly useful for treating bacterial and/or viral menigitis |
|--------------------------|--|---|--|
| Exemplary Activity Assay | HIV protease activities are known in the art: HIV protease assays: EP0387231. One can modify the assay to look for inhibition using any of the disclosed protease inhibitor polypeptides. | HIV protease activities are known in the art: HIV protease assays: EP0387231. One can modify the assay to look for inhibition using any of the disclosed protease inhibitor polypeptides. | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Peptides that inhibit the function/binding of HIV | Peptides that inhibit the function/binding of HIV | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 receptors thus far identified. |
| PCT/Patent Number | WO9948513 | | W09509232 |
| Exemplary Identifier | GeneSeq Accession Y31955 | www.sciencex press.org; Published Online 12 January 2001; 10.1126/scienc | GeneSeq Accession R73915 |
| Therapeutic Protein X | HIV Inhibitor Peptide | HIV Inhibitor Peptide | Human monocyte chemoattractant factor hMCP-3 |

| Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-----------------|-------------------------|-------------------|--|------------------------------------|--------------------------------|
| Human | GeneSeq | WO9509232 | Chemokines are a family of | Chemokine activities can be | Immune disorders, particularly |
| monocyte | Accession R73914 | | related small, secreted proteins | determined using assays known in | useful for treating bacterial |
| chemoattractant | | | involved in biological processes | the art: Methods in Molecular | and/or viral menigitis |
| factor hMCP-1 | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine |) |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | • | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Preferred Indication Y | Immune disorders, inflammatory disorders, blood- related disorders, stem cell transplantation, cancer |
|--------------------------|--|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopuiesis, angiogenesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly family are involved in a similarly giverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 receptors thus far identified. |
| PCT/Patent Number | W09429341 |
| Exemplary Identifier | GeneSeq Accessions R66699 and W17671 |
| Therapeutic Protein X | Human gro-beta |

| | r | | _ | _ | | | | | | | | | _ | _ | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune disorders, | inflammatory disorders, blood- | related disorders, stem cell | transplantation, cancer | | | | *** | | | | | | | | | | ! |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9429341 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accessions | R66700 and | W17672 | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human gro- | gamma | chemokine | | | | | | | | | | | | | | | |

| Preferred Indication Y | Immune disorders, | inflammatory disorders, blood- | related disorders, stem cell | transplantation, cancer | | | | | | | | | | | | | | _ |
|-----------------------------|----------------------------------|---|--|---|-----------------------------------|------------------------------------|--|-----------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay Pr | Chemokine activities can be Immu | determined using assays known in inflam | the art: Methods in Molecular related | Biology, 2000, vol. 138: Chemokine transp | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | wer. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of Ch | related small, secreted proteins det | involved in biological processes the | | angiogenesis, and leukocyte Pro | trafficking. Members of this Pro | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies To | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9429341 | | | | | | | | | • | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accessions | R66698 and | W18024 | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human gro- | alpha | chemokine | | | | | | | | | | | | | | | |

| Therapeutic | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-------------|-----------|-------------------|--|------------------------------------|-------------------------------|
| Protein X | | | | | |
| Human | GeneSeq | W09632481 | Chemokines are a family of | Chemokine activities can be | Immune disorders, partcularly |
| eosinophil- | Accession | | related small, secreted proteins | determined using assays known in | treatment of eosinophilia, |
| expressed | W05186 | | involved in biological processes | the art: Methods in Molecular | inflammation, allergies, |
| chemokine | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | asthma, leukaemia and |
| (EEC) | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | lymphoma |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Cancer and blood-related | disorders, particularly | myelosuppression | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | • | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9613587 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | | | ~ | R99809 | | | | | | | | | | | | | | |
| Therapeutic Protein X | Chemokine-like | protein PF4-414 | Full-Length and | Mature | | | | | | | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-----------------------------------|-------------------|--|------------------------------------|--------------------------|
| Chemokine-like | GeneSeq | WO9613587 | Chemokines are a family of | Chemokine activities can be | Cancer and blood-related |
| in IL-8M3 | protein IL-8M3 Accession R99812 | | related small, secreted proteins | determined using assays known in | disorders, particularly |
| | | | involved in biological processes | the art: Methods in Molecular | myelosuppression |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ; and Holmes et al | |
| · · | | | including inflammation, allergy, | (1991)Science 253, 1278-80. | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Cancer and blood-related | disorders, particularly | myelosuppression | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ; and Holmes et al | (1991)Science 253, 1278-80. | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCI/Patent Number | WO9613587 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession R99814 | | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | interleukin-8 | (IL-8) | | | | | | | | | | | | | | | |

| Preferred Indication Y | Cancer and blood-related | disorders, particularly | myelosuppression | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ; and Holmes et al | (1991)Science 253, 1278-80. | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9613587 | | | | | | | | | | | | | | | - | | |
| Exemplary Identifier | | Accessions | | R99803 | | | | | | | | | | | | | | • |
| Therapeutic Protein X | Chemokine-like | protein IL-8M1 | Full-Length and | Mature | | | | | | | | | | | | | | |

| Preferred Indication Y | Cancer and blood-related disorders, particularly myelosuppression |
|--------------------------|--|
| Exemplary Activity Assay | 'n in nokine C.A. |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 receptors thus far identified. |
| PCT/Patent Number | WO9613587 |
| Exemplary Identifier | GeneSeq Accessions R99816 and R99805 |
| Therapeutic Protein X | Chemokine-like protein IL-8M8 Full-Length and Mature |

| Preferred Indication Y | Cancer and blood-related disorders, particularly myelosuppression |
|--------------------------|---|
| Exemplary Activity Assay | nokine C.A. |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly are involved in a similarly are involved in a similarly restrange of pathologies including inflammation, allergy, diverse rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| PCT/Patent Number | WO9613587 |
| Exemplary Identifier | , - |
| Therapeutic Protein X | Chemokine-like protein IL-8M9 Full-Length and Mature |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Cancer and blood-related | disorders, particularly | myelosuppression | | | | | | | , | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ; and Holmes et al | (1991)Science 253, 1278-80. | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9613587 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accessions | R99818 and | R99804 | | | | | | | | | | | | | | |
| Therapeutic Protein X | Chemokine-like | protein IL- | 8M10 Full- | Length and | Mature | | | | | | | | | | | | | |

| Preferred Indication Y | Cancer and blood-related disorders, particularly myelosuppression |
|--------------------------|---|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly diverse range of pathologies including inflammation, allergy, diverse rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| PCT/Patent Number | WO9613587 |
| Éxemplary Identifier | GeneSeq Accessions R99819 and R99807 |
| Therapeutic Protein X | Chemokine-like protein PF4-M2 Full-Length and Mature |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|--------------------------|
| Chemokine-like | GeneSeq | WO9613587 | Chemokines are a family of | Chemokine activities can be | Cancer and blood-related |
| protein PF4-426 | | | related small, secreted proteins | determined using assays known in | disorders, particularly |
| Full-Length and | R99822 and | | involved in biological processes | the art: Methods in Molecular | myelosuppression |
| Mature | R99811 | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | • | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | , |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune disorders | | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | - | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9622374 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession R98499 | | | | - | - | | | | | | | | | | | |
| Therapeutic Protein X | Human foetal | spleen | expressed | chemokine, | FSEC | | | | | | | | | | | | | |

| Preferred Indication Y | | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver | n of the liver |
|--------------------------|-----------|-----------------------------|--|--|---|--|--|--|---|--|---|--|--|--|---|---|--|---|
| Preferred | | Inflammation of the liver | Inflammation c | Inflammation c | | | | | | | | | | | | | | |
| Exemplary Activity Assay | | Chemokine activities can be | Chemokine activities can be determined using assays known in | Chemokine activities can be determined using assays known in the art: Methods in Molecular | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Prouffoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | | Chemokines are a family of | Chemokines are a family of related small, secreted proteins | Chemokines are a family of related small, secreted proteins involved in biological processes | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this | Chemokines are a family of cleared sorbies are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte angiogenesis an | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoissis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein- | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoissis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| re i /ratent i Number | 6269196UM | | | | | | <u></u> | | | | | | | | | | | |
| Exemplary Identifier | GeneSed | | Š | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 | Accession R95689 |
| Therapeutic Protein X | passe | | kine-1 | kine-1 / | skine-1 A 3C-1) | okine-1 A | okine-1 A | okine-1 A | okine-1 A | okine-1 A | okine-1 A | Okine-1 A | chemokine-1 A | nokine-1 A | nokine-1 A | nokine-1 A | ACC-1) | 7EC-1) |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inflammation of the liver | | | | | | w | | | | | -2 | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoicsis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9616979 | | | | | | | - | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession R95690 | | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Liver expressed | chemokine-2 | (LVEC-2) | | | | | | | | | | | • | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|-------------------------------|
| Pituitary | GeneSeq | WO9616979 | Chemokines are a family of | Chemokine activities can be | Inflammation, particularly of |
| expressed | Accession R95691 | | related small, secreted proteins | determined using assays known in | the liver |
| chemokine | | | involved in biological processes | the art: Methods in Molecular | |
| (PGEC) | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols, Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| - | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Therapeutic | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-------------|------------------|-------------------|--|------------------------------------|-----------------------------|
| Protein X | Identifier | | | | |
| Adenoid- | GeneSeq | WO9617868 | Chemokines are a family of | Chemokine activities can be | Inflammation, angiogenesis, |
| expressed | Accession R97664 | | related small, secreted proteins | determined using assays known in | tumorigenesis, |
| chemokine | | | involved in biological processes | the art: Methods in Molecular | musculoskeletal disorders |
| (ADEC) | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| - | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | • | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune disorders, cell | migration, proliferation, and | differentiation disorders | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9741230 | | | | | | | | | | - | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W38170 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine CC- | 7 | | | | | | | | | | | | | | | |

| Y | | l pu | | | | | | | | _ | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | orders, cell | migration, proliferation, and | differentiation disorders | | | | | | | | | | | | | | | |
| Preferr | Immune disorders, cell | migration, p | differentiati | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9741230 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W38171 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine | HCC-1 | | | | | | | | | | | | | | | |

| Biological Activity |
|--|
| Chemokines are a family of |
| related small, secreted proteins |
| involved in biological processes |
| ranging from hematopoiesis, |
| angiogenesis, and leukocyte |
| trafficking. Members of this |
| family are involved in a similarly Power. © Humana Press Inc., |
| diverse range of pathologies |
| including inflammation, allergy, |
| tissue rejection, viral infection, |
| and tumor biology. The |
| chemokines exert their effects by |
| acting on a family of seven |
| transmembrane G-protein- |
| coupled receptors. Over 40 |
| human chemokines have been |
| described, which bind to ~17 |
| receptors thus far identified. |

| Therapeutic Drotoin V | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--|-----------|-------------------|--|------------------------------------|-----------------------------|
| Novel heta- | GeneSed | W/O0730126 | Chemobines are a family of | Chamokina potivitias con ba | Immina diamedare vacculor |
| יייייייייייייייייייייייייייייייייייייי | hacaman | WO2122140 | Chemonics are a family of | Circulovine acu vines can de | minimus misoracis, vascurar |
| chemokine | Accession | | related small, secreted proteins | determined using assays known in | disorders, cancer |
| designated | W27271 | | involved in biological processes | the art: Methods in Molecular | |
| PTEC | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Preferred Indication Y | Immune disorders, | inflammatory diseases, | abnormal proliferation, | regeneration, degeneration, | and atrophy | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9727299 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W23344 | | | | | | | | | | | | | | , | |
| Therapeutic Protein X | Human CX3C | 111 amino acid | chemokine | | | | | | | | | - | | | | | • | |

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|--------------------------|--|
| Preferred Indication Y | Abnormal physiology and development disorders, can also be used as an anti-viral agent |
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| PCT/Patent Number | W09721812 |
| Exemplary Identifier | GeneSeq Accession W25942 |
| Therapeutic Protein X | Human CCF18 |

| Preferred Indication Y | Chemotaxis, blood-related | disorders, viral infection, HIV, | wound healing, cancer | ì | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9725427 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W26655 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human beta- | chemokine | H1305 (MCP-2) | | | | | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inflammatory and immune | disorders | | | | • | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | - | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9712914 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W14990 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | eosinocyte CC | type chemokine | eotaxin | | | | - | | | _ | | | | | | | |

| Preferred Indication Y | Inflammatory and immune disorders | |
|--------------------------|--|-------------------------------|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and groupled receptor, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 | receptors mus far identified. |
| PCT/Patent Number | WO9711969 | ! |
| Èxemplary Identifier | GeneSeq Accession W14917 | |
| Therapeutic Protein X | Human thymus and activation regulated cytokine (TARC) | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Cancer, wound healing, | immune disorders | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9712041 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W16315 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine beta- | 8 short forms | | - | | | | | | | | | | | | | |

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|--------------------------|------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inflammatory diseases, wound | healing, angiogenesis | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9640923 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W20058 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Macrophage | derived | chemokine, | MDC | | | | | | | | | | | | - | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inflammatory and immune | diseases | | | | | | | | | | | | | | · | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols, Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | , | | | | | | | | , | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9844117 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W30565 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine | ZSIG-35 | | | | | | | | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|------------------------------|
| Primate CC | GeneSeq | WO9832858 | Chemokines are a family of | Chemokine activities can be | Immune and inflammatory |
| chemokine | Accession | | related small, secreted proteins | determined using assays known in | disorders, abnormal |
| "ILINCK" | W69990 | | involved in biological processes | the art: Methods in Molecular | proliferation, regeneration, |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | generation and atrophy |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | disorders |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| - | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | , | |
| | | | acting on a family of seven | | _ |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune and inflammatory | disorders, abnormal | proliferation, regeneration, | generation and atrophy | disorders | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | , | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9832858 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | 68669M | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Primate CXC | chemokine | "IBICK" | | | | | | | | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|------------------------------|
| Human CC-type | GeneSeq | WO9831809 | Chemokines are a family of | Chemokine activities can be | Immune, inflammatory, and |
| hemokine | | | related small, secreted proteins | determined using assays known in | infectious disorders, cancer |
| protein | | | involved in biological processes | the art: Methods in Molecular | |
| ignated SLC | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| (secondary | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| lymphoid | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| hemokine) | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | • |
| | | | tissue rejection, viral infection, | | |
| _ | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| <u>.</u> | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|---------------------------------|
| Human CC | GeneSeq | WO9826071 | Chemokines are a family of | Chemokine activities can be | Cancer and infectious diseases, |
| chemokine ELC | Accession | | related small, secreted proteins | determined using assays known in | particularly herpes virus |
| protein | W62542 | | involved in biological processes | the art: Methods in Molecular | |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| - | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | , |
| | | | human chemokines have been | | |
| | | ٠ | described, which bind to ~ 17 | | |
| | | | receptors thus far identified. | | |

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| Preferred Indication Y | Abnormal proliferation, | regeneration, degeneration, | and atrophy disorders, | including cancer | | | | | | | | | | | | | | : |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9823750 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W60649 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human DVic-1 | C-C chemokine | | | | | | | | | | | | | | | | |

| Preferred Indication Y | Immune disorders, cell | proliferation disorders, cancer | | | | | | | | | | | | | | | - | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9823750 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W60650 | | | | • | | | | | | | | | | | |
| Therapeutic Protein X | Human C-C | chemokine | DGMCC | | | | | | | | | | | | | | | |

| Preferred Indication Y | Immune disorders, particularly | T cell related disorders, viral | infection, and inflammation, | especially joint | | | | | | | | | | | | | | |
|--------------------------|--------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9824907 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W62783 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human STCP-1 | | | | | | | | | | | | | | | | | |

| lication Y | mmatory nesis, rration arly c diseases |
|--------------------------|--|
| Preferred Indication Y | Immune and inflammatory disorders, angiogenesis, cancer, and proliferation disorders, particularly myeloproliferative diseases |
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art. Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| PCT/Patent Number | WO9821330 |
| Exemplary Identifier | GeneSeq Accession W61279 |
| Therapeutic Protein X | Exodus protein |

| Preferred Indication Y | Cancer and degenerative disorders | |
|--------------------------|---|-----------------------------|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 | receptors thus lat ruemmen. |
| PCT/Patent Number | WO9814581 | |
| Exemplary Identifier | GeneSeq Accession W50887 | |
| Therapeutic Protein X | Human Chr19Kine protein | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune, inflammatory, and | infectious disorders, cancer | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | US5780268 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W58703 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human T cell | mixed | lymphocyte | reaction | expressed | chemokine | (TMEC) | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Cancer and degenerative | disorders | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9814581 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W50885 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human 6CKine | protein | | | | | | | | | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-----------------------|-------------------------|-------------------|--|------------------------------------|------------------------------|
| human liver and | GeneSeq | WO9817800 | Chemokines are a family of | Chemokine activities can be | Immune, inflammatory, and |
| activation | Accession | | related small, secreted proteins | determined using assays known in | infectious disorders, cancer |
| regulated | W57475 | | involved in biological processes | the art: Methods in Molecular | |
| chemokine | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| (LARC) | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | - | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | , | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|------------------------|
| NTES | GeneSeq | WO9744462 | Chemokines are a family of | Chemokine activities can be | Infectious diseases, |
| ptide | Accession | | related small, secreted proteins | determined using assays known in | particularly HIV |
| | W29538 | | involved in biological processes | the art: Methods in Molecular | |
| | | - | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| _ | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | * | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | : | receptors thus far identified. | | |

| Preferred Indication Y | Infectious diseases, | particularly HIV | | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9744462 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W29529 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | RANTES 8-68 | | | | | | | | | | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|------------------------|
| RANTES 9-68 | GeneSeq | W09744462 | Chemokines are a family of | Chemokine activities can be | Infectious diseases, |
| | Accession | | related small, secreted proteins | determined using assays known in | particularly HIV |
| | W29528 | | involved in biological processes | the art: Methods in Molecular | |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Preferred Indication Y | Abnormal proliferation, | regeneration, degeneration or | atrophy, including cancer | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9811226 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W59433 | | | | | | | | • | | | | | | | |
| Therapeutic Protein X | Human | chemokine | protein 331D5 | | | - | | | | | | | | | | | | |

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| dication (| ration, | regeneration, degeneration or | g cancer | | | | | | | | | | | | | | | |
| Preferred Indication Y | Abnormal proliferation, | ration, deg | atrophy, including cancer | | | | | | | | | | | | | | | |
| Pre | Abnor | regene | atrophy | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols, Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | family are involved in a similarly Power. © Humana Press Inc., | Totowa, NJ | | | 2 | | | | | | | |
| ivity | ily of | proteins | processes | oiesis, | cocyte | of this | a similarly | logies | n, allergy, | nfection, | e | r effects by | even | tein- | er 40 | ve been | to~17 | tified. |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | involved in | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | biology. Th | s exert their | family of s | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| Bio | Chemokine | related sma | involved in | ranging fro | angiogenes | trafficking. | family are i | diverse ran | including in | tissue rejec | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmemb | coupled rec | human che | described, | receptors th |
| PCT/Patent Number | WO9811226 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W59430 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine | protein 61164 | | | | | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune, inflammatory, and | infectious diseases | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9809171 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W56690 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Chemokine | MCP-4 | | | | | | | | | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|------------------------|
| Human stromal | GeneSeq | FR2751658 | Chemokines are a family of | Chemokine activities can be | HIV infections |
| cell-derived | Accession | | related small, secreted proteins | determined using assays known in | |
| chemokine, | W50766 | | involved in biological processes | the art: Methods in Molecular | |
| SDF-1 | | , | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | - | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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| Preferred Indication Y | Immune and inflammatory | disorders | | • | | | | | | - | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9801557 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | bəSəuəD | Accession | W44397 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Thymus | expressed | chemokine | (TECK) | | | | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune and inflammatory | disorders | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9801557 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W44398 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine | MIP-3alpha | | | | | ·- | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune and inflammatory | disorders | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9801557 | | | | | | | | | • | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W44399 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human | chemokine | MIP-3beta | | | | | | | | | | | | | | | |

| Therapeutic | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-------------|------------|-------------------|--|------------------------------------|-------------------------------|
| Protein X | Identifier | | | | |
| Human | GeneSeq | WO9802459 | Chemokines are a family of | Chemokine activities can be | Immune disorders, respiratory |
| monocyte | Accession | | related small, secreted proteins | determined using assays known in | disorders, cancer |
| chemotactic | W42072 | | involved in biological processes | the art: Methods in Molecular | |
| proprotein | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| (MCPP) | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| sednence | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | ÷ | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Preferred Indication Y | Immune, and inflammatory disorders, cancer | |
|--------------------------|--|-----------------------------------|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ | |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and granting from hematopoiesis, and leukocyte trafficking. Members of finis family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and turnor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 recentors thus far identified | וכלבוווונטטו ומנו מוווס ביטולבים! |
| PCT/Patent Number | US5932703 US5932703 | |
| Exemplary Identifier | GeneSeq Accessions W40811 and Y24414 | |
| Therapeutic Protein X | Macrophage- derived chemokine (MDC) | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|-------------------------|
| Macrophage | GeneSeq | US5932703 | Chemokines are a family of | Chemokine activities can be | Immune and inflammatory |
| derived | Accession | | related small, secreted proteins | determined using assays known in | disorders |
| chemokine | Y24416 | | involved in biological processes | the art: Methods in Molecular | |
| analogue MDC- | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| eyfy | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | ٠ | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | - | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune and inflammatory | disorders | | | | | • | | | | 0 | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | • | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | US5932703 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y24413 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Macrophage | derived | chemokine | analogue MDC | (n+1) | | | | | • | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|-------------------------|
| Macrophage | GeneSeq | US5932703 | Chemokines are a family of | Chemokine activities can be | Immune and inflammatory |
| derived | Accession | | related small, secreted proteins | determined using assays known in | disorders |
| chemokine | Y24415 | | involved in biological processes | the art: Methods in Molecular | |
| analogue MDC- | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| yl | | - | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | • | | human chemokines have been | | |
| - | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| | r- | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Allergic diseases and HIV | infection | | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | JP11243960 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y43178 | | | | | | | | | | | | | · | | |
| Therapeutic Protein X | Human type CC | chemokine | eotaxin 3 | protein | sednence | | | | | | | | | | | | | |

| Preferred Indication Y | Cancer and immune disorders, | particularly HIV infection | | | | | | | | | | | - | | | | ·· | |
|--------------------------|------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9946392 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y29893 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human MCP-3 | and human | Muc-1 core | epitope (VNT) | fusion protein | | | | | | | | | | | | | |

| Preferred Indication Y | Cancer and immune disorders, | particularly HIV infection | | | | | | | | | | | | | | | | |
|--------------------------|------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9946392 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y29894 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Human IP-10 | and human | Muc-1 core | epitope (VNT) | fusion protein | | | | | • | | | | | | | | |

| Therapeutic Protein X | Exemplary Identifier | PCI/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|------------------------------|
| Human IP-10 | GeneSeq | W09946392 | Chemokines are a family of | Chemokine activities can be | Cancer and immune disorders, |
| and HIV-1 | Accession | | related small, secreted proteins | determined using assays known in | particularly HIV infection |
| gp120 | Y29897 | | involved in biological processes | the art: Methods in Molecular | |
| hypervariable | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| region fusion | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| protein | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Therapeutic | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|---------------|------------|-------------------|--|------------------------------------|---------------------------|
| Protein X | Identifier | | | | |
| Human | GeneSeq | WO9936540 | Chemokines are a family of | Chemokine activities can be | Breast disease, including |
| mammary | Accessions | | related small, secreted proteins | determined using assays known in | cancer |
| associated | Y29092 and | | involved in biological processes | the art: Methods in Molecular | |
| chemokine | Y29093 | | ranging from hematopoiesis, | Biology, 2000, vol. 138; Chemokine | |
| (MACK) | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| protein Full- | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| Length and | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| Mature | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|--|--|------------------------------------|--------------------------------|
| Tim-1 protein | GeneSeq | WO9933990 | Chemokines are a family of | Chemokine activities can be | Inflammation due to stimuli |
| | Accession | | related small, secreted proteins | determined using assays known in | such as heart attacks and |
| | Y28290 | | involved in biological processes | the art: Methods in Molecular | stroke, infection, physical |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | trauma, UV or ionizing |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | radiation, burns, frostbite or |
| | | - | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | corrosive chemicals |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. @ Humana Press Inc., | |
| - | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | , and the second | receptors thus far identified. | | |

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|--------------------------|--|---|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | HIV infection and cancer, particularly leukemia | | ` | | _ | | | | | | | | _ | | | |
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in | the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine | Protocols. Edited by; A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | • | | | | | | |
| Biological Activity | Chemokines are a family of related small, secreted proteins | involved in biological processes ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9928473 and WO9928472 | | | | | | | | | | | | | | | • |
| Exemplary Identifier | GeneSeq Accessions | in Y17280, Y17274, Y17281, and | Y17275 | • | | | | | | | | | | | | |
| Therapeutic Protein X | Human Lkn-1 Full-Length and | Mature protein | | | | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inhibit or stimulate | angiogenesis, inhibit the | binding of HIV | | | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, Nj | - | | | | | | | | | : |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9920759 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y05818 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | N-terminal | modified | chemokine met- | hSDF-1 alpha | | | | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inhibit or stimulate | angiogenesis, inhibit the | binding of HIV, | antiinflammatory; | immunosuppressant | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9920759 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | • | | | | | | | | | | | | | | | | |
| Therapeutic Protein X | N-terminal | modified | chemokine met- | hSDF-1 beta | | | | | | | | | | | | | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inhibit or stimulate | angiogenesis, inhibit the | binding of HIV, | | immunosuppressant | • | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9920759 | | | | | | | | | | | | | | | | | |
| | GeneSeq | | | | | | | | | | | | | | | | | |
| Therapeutic Protein X | N-terminal | modified | chemokine | GroHEK/hSDF- | 1alpha | | | | • | | | | | | | | | |

| Preferred Indication Y | Inhibit or stimulate angiogenesis, inhibit the binding of HIV, antiinflammatory; immunosuppressant |
|--------------------------|---|
| Exemplary Activity Assay | n in nokine |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes the art: Methods in Molecular ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte trafficking. Members of this family are involved in a similarly including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 recentors thus far identified. |
| PCT/Patent Number | W09920759 |
| Exemplary Identifier | GeneSeq Accession Y05821 |
| Therapeutic Protein X | N-terminal modified chemokine GroHEK/hSDF- 1beta. |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|---------------------------------|
| Chemokine | GeneSeq | WO9912968 | Chemokines are a family of | Chemokine activities can be | Increase or enhance an |
| Eotaxin. | Accession | | related small, secreted proteins | determined using assays known in | inflammatory response, an |
| | Y14230 | | involved in biological processes | the art: Methods in Molecular | immune response or |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | haematopoietic cell-associated |
| | | | angiogenesis, and leukocyte | | activity; treat a vascular |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | indication; Cancer; enhance |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | wound healing, to prevent or |
| | | | diverse range of pathologies | Totowa, NJ | treat asthma, organ transplant |
| | | | including inflammation, allergy, | | rejection, rheumatoid arthritis |
| | | | tissue rejection, viral infection, | | or allergy |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | • | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune disorders, Vascular | disorders, Wound healing, | cancer, prevent organ | | or enhance an inflammatory | response, | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9912968 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y14225 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Chemokine | hMCP1a | | | | | | | | | | | | | | | | |

| Preferred Indication Y | Immune disorders, Vascular disorders, Wound healing, cancer, prevent organ transplant rejection, Increase or enhance an inflammatory response, |
|--------------------------|---|
| Exemplary Activity Assay | Chemokine activities can be Immune disorders, Vascular determined using assays known in the art: Methods in Molecular cancer, prevent organ Biology, 2000, vol. 138: Chemokine transplant rejection, Increase Protocols. Edited by: A.E.I. response, Proudfoot, T.N.C. Wells, and C.A. response, Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes the art: Methods in Molecular ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 receptors thus far identified. |
| PCT/Patent Number | W09912968 |
| Exemplary Identifier | GeneSeq Accession Y14226 |
| Therapeutic Protein X | Chemokine hMCP1b |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|---|--------------------------------|
| Chemokine | GeneSeq | WO9912968 | Chemokines are a family of | Chemokine activities can be | Immune disorders, Vascular |
| hSDF1b | Accession | | related small, secreted proteins | determined using assays known in | disorders, Wound healing, |
| | Y14228 | | involved in biological processes | the art: Methods in Molecular | cancer, prevent organ |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine transplant rejection, Increase | transplant rejection, Increase |
| | | - | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | or enhance an inflammatory |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | response |
| | | - | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | 1 | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|---|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune disorders, Vascular | disorders, Wound healing, | cancer, prevent organ | transplant rejection, Increase | or enhance an inflammatory | response | | | | | | | | | _ | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine transplant rejection, Increase | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ; and Holmes et al | (1991)Science 253, 1278-80. | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9912968 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y14229 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Chemokine hIL- | ∞ | | | | | | | | | | | | | | | | |

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|--------------------------|--|
| Preferred Indication Y | Immune disorders, Vascular disorders, Wound healing, cancer, prevent organ transplant rejection, Increase or enhance an inflammatory response |
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in disorders, Wound healing, the art. Methods in Molecular Biology, 2000, vol. 138: Chemokine transplant rejection, Increase Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and fleukocyte trafficking. Members of this family are involved in a similarly lower. © Humana Press Inc., diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| PCT/Patent Number | WO9912968 |
| Exemplary Identifier | GeneSeq Accession Y14222 |
| Therapeutic Protein X | Chemokine hMCP1 |

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|--------------------------|-----------------------------|----------------------------------|----------------------------------|---|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Immune disorders, Vascular | disorders, Wound healing, | cancer, prevent organ | transplant rejection, Increase | or enhance an inflammatory | response | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine transplant rejection, Increase | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | WO9912968 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y14223 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Chemokine | hMCP2 | | | | | | | | | | | | | | | | |

| Preferred Indication Y | Immune disorders, Vascular disorders, Wound healing, cancer, prevent organ transplant rejection, Increase or enhance an inflammatory response |
|--------------------------|---|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 receptors thus far identified. |
| PCT/Patent Number | W09912968 |
| Exemplary Identifier | GeneSeq Accession Y14224 |
| Therapeutic Protein X | Chemokine hMCP3 |

| T/Pat | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-------|-------------------|--|---|--------------------------------|
| EP9 | EP905240 | Chemokines are a family of | Chemokine activities can be | Inflammatory, immune and |
| | | related small, secreted proteins | determined using assays known in | infectious diseases; pulmonary |
| | | involved in biological processes | the art: Methods in Molecular | diseases and skin disorders; |
| | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine tumours, and angiogenesis- | tumours, and angiogenesis- |
| | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | and haematopoiesis-related |
| | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | diseases |
| | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | diverse range of pathologies | Totowa, NJ | |
| | | including inflammation, allergy, | | |
| | | tissue rejection, viral infection, | | |
| | | and tumor biology. The | | |
| | | chemokines exert their effects by | | |
| | | acting on a family of seven | | |
| | | transmembrane G-protein- | | |
| | | coupled receptors. Over 40 | | |
| | | human chemokines have been | | |
| | | described, which bind to ~17 | | |
| | | receptors thus far identified. | | |

| Preferred Indication Y | Inflammatory, immune and | infectious diseases; pulmonary | diseases and skin disorders; | tumours, and angiogenesis- | and haematopoiesis-related | diseases | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | EP906954 | | | - | | | | | | | | | | | - | | | |
| Exemplary Identifier | GeneSeq | Accession | Y07233 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Wild type | monocyte | chemotactic | protein 2 | | | | | | | | | | | | | | |

| Therapeutic | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|------------------|------------|-------------------|--|--|--------------------------------|
| Protein X | Identifier | | | | |
| Truncated | | EP906954 | Chemokines are a family of | Chemokine activities can be | Inflammatory, immune and |
| monocyte | Accession | | related small, secreted proteins | determined using assays known in | infectious diseases; pulmonary |
| chemotactic | | | involved in biological processes | the art: Methods in Molecular | diseases and skin disorders; |
| protein 2 (6-76) | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine [tumours, and angiogenesis- | tumours, and angiogenesis- |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | and haematopoiesis-related |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | diseases |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | 0 |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | • | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

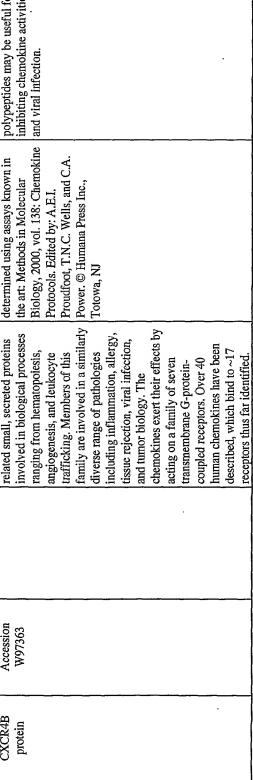
| - | | > | | | | | | | _ | | | | _ | _ | | _ | _ | |
|--------------------------|---|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inflammatory, immune and | infectious diseases; pulmonary | diseases and skin disorders; | tumours, and angiogenesis- | and haematopoiesis-related | diseases | | | | 1887 | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | : |
| Biological Activity | EP905241; EP906954 Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. © Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | EP905241; EP906954 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accessions | Y07236 and | Y07232 | | | | | | | | | | | | | | |
| Therapeutic Protein X | Truncated | RANTES | protein (3-68) | | | | | | | | | | | | | | _ | |

| | , | | _ | | | | | | | | | | _ | _ | _ | | _ | _ |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Inflammatory, immune and | infectious diseases; pulmonary | diseases and skin disorders; | | and haematopoiesis-related | diseases | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | ; |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | EP905241 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | Y07237 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | Wild type | monocyte | chemotactic | protein 2 | | | - - | | | | | | | | | | | |

| Assay Preferred Indication Y | be Inflammatory, immune and town in infectious diseases; pulmonary alar diseases and skin disorders; hemokine tumours, and angiogenesistic and haematopoicsis-related ind C.A. diseases diseases |
|------------------------------|---|
| Exemplary Activity Assay | Chemokine activities can be determined using assays known in the art: Methods in Molecular Biology, 2000, vol. 138: Chemokine Protocols. Edited by: A.E.I. Proudfoot, T.N.C. Wells, and C.A. Power. © Humana Press Inc., Totowa, NJ |
| Biological Activity | Chemokines are a family of related small, secreted proteins involved in biological processes the art: Methods in Molecular ranging from hematopoiesis, and leukocyte angiogenesis, and leukocyte frafficking. Members of this family are involved in a similarly diverse range of pathologies including inflammation, allergy, tissue rejection, viral infection, and tumor biology. The chemokines exert their effects by acting on a family of seven transmembrane G-protein-coupled receptors. Over 40 human chemokines have been described, which bind to ~17 |
| PCT/Patent Number | EP905241 |
| Exemplary Identifier | GeneSeq Accession Y07238 |
| Therapeutic Protein X | Truncated monocyte chemotactic protein 2 (6-76) |

PCT/US01/12013 WO 01/79444

| Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-------------------------|-------------------|--|------------------------------------|---------------------------------|
| | EP897980 | Chemokines are a family of | Chemokine activities can be | Soluble CXCR4B receptor |
| | | related small, secreted proteins | determined using assays known in | polypeptides may be useful for |
| W97363 | | involved in biological processes | the art: Methods in Molecular | inhibiting chemokine activities |
| | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | and viral infection. |
| | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | |
| | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | diverse range of pathologies | Totowa, NJ | |
| | | including inflammation, allergy, | | |
| | | tissue rejection, viral infection, | | |
| | | and tumor biology. The | | |
| | | chemokines exert their effects by | | |
| | | acting on a family of seven | | |
| | • | transmembrane G-protein- | | |
| | | coupled receptors. Over 40 | | |
| | | human chemokines have been | | |
| | | described, which bind to ~17 | | |
| | | receptors thus far identified. | | |



| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|----------------------------|
| Interferon | GeneSen | 1185871773 | Chemokines are a family of | Chemokine activities can be | Angiogenesis Cancer |
| | F | | | | ingrobation, carear, |
| gamma- | Accession | | related small, secreted proteins | determined using assays known in | Inflammatory and Immune |
| inducible | 60L96M | | involved in biological processes | the art: Methods in Molecular | disorders, Cardio-Vascular |
| protein (IP-10) | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | disorders |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. @ Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |

| | | | | _ | | _ | | _ | | | | _ | | | | | | |
|--------------------------|-----------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------|-----------------------------------|--|------------------------------|----------------------------------|------------------------------------|------------------------|-----------------------------------|-----------------------------|--------------------------|----------------------------|----------------------------|------------------------------|--------------------------------|
| Preferred Indication Y | Angiogenesis, Cancer, | Inflammatory and Immune | disorders, Cardio-Vascular | | disorders | | | | | | | | | | | | | |
| Exemplary Activity Assay | Chemokine activities can be | determined using assays known in | the art: Methods in Molecular | Biology, 2000, vol. 138: Chemokine | Protocols. Edited by: A.E.I. | Proudfoot, T.N.C. Wells, and C.A. | Power. © Humana Press Inc., | Totowa, NJ | | | | | | | | | | |
| Biological Activity | Chemokines are a family of | related small, secreted proteins | involved in biological processes | ranging from hematopoiesis, | angiogenesis, and leukocyte | trafficking. Members of this | family are involved in a similarly Power. @ Humana Press Inc., | diverse range of pathologies | including inflammation, allergy, | tissue rejection, viral infection, | and tumor biology. The | chemokines exert their effects by | acting on a family of seven | transmembrane G-protein- | coupled receptors. Over 40 | human chemokines have been | described, which bind to ~17 | receptors thus far identified. |
| PCT/Patent Number | US5871723 | | | | | | | | | | | | | | | | | |
| Exemplary Identifier | GeneSeq | Accession | W96710 | | | | | | | | | | | | | | | |
| Therapeutic Protein X | A monokine | induced by | gamma- | interferon | (MIG) | | | | | | | - | | | | | | |

| Therapeutic | Exemplary | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|-----------------|-----------|-------------------|--|------------------------------------|----------------------------|
| Protein X | | | | | |
| Interleukin-8 | GeneSeq | US5871723 | Chemokines are a family of | Chemokine activities can be | Angiogenesis, Cancer, |
| (IL-8) protein. | Accession | | related small, secreted proteins | determined using assays known in | Inflammatory and Immune |
| | W96711 | | involved in biological processes | the art: Methods in Molecular | disorders, Cardio-Vascular |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | disorders |
| | • | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ; and Holmes et al | |
| | | | including inflammation, allergy, | (1991)Science 253, 1278-80. | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | ٠ | | receptors thus far identified. | | |

| Biological Activity |
|--|
| Chemokines are a family of |
| related small, secreted proteins |
| involved in biological processes |
| ranging from hematopoiesis, |
| angiogenesis, and leukocyte |
| trafficking. Members of this |
| family are involved in a similarly Power. © Humana Press Inc., |
| diverse range of pathologies |
| including inflammation, allergy, |
| tissue rejection, viral infection, |
| and tumor biology. The |
| chemokines exert their effects by |
| acting on a family of seven |
| transmembrane G-protein- |
| coupled receptors. Over 40 |
| human chemokines have been |
| described, which bind to ~17 |
| receptors thus far identified. |

| Therapeutic Protein X | Exemplary Identifier | PCT/Patent Number | Biological Activity | Exemplary Activity Assay | Preferred Indication Y |
|--------------------------|-------------------------|-------------------|--|------------------------------------|----------------------------|
| Growth related | GeneSeq | US5871723 | Chemokines are a family of | Chemokine activities can be | Angiogenesis, Cancer, |
| oncogene-alpha | Accession | | related small, secreted proteins | determined using assays known in | Inflammatory and Immune |
| (GRO-alpha). | . W96713 | | involved in biological processes | the art: Methods in Molecular | disorders, Cardio-Vascular |
| | | | ranging from hematopoiesis, | Biology, 2000, vol. 138: Chemokine | disorders, Musco-skeletal |
| | | | angiogenesis, and leukocyte | Protocols. Edited by: A.E.I. | disorders |
| | | | trafficking. Members of this | Proudfoot, T.N.C. Wells, and C.A. | |
| | | | family are involved in a similarly Power. © Humana Press Inc., | Power. © Humana Press Inc., | |
| | | | diverse range of pathologies | Totowa, NJ | • |
| | | | including inflammation, allergy, | | |
| | | | tissue rejection, viral infection, | | |
| | | | and tumor biology. The | | |
| | | | chemokines exert their effects by | | |
| | | | acting on a family of seven | | |
| | | | transmembrane G-protein- | | |
| | | | coupled receptors. Over 40 | | |
| | | | human chemokines have been | | |
| | | | described, which bind to ~17 | | |
| | | | receptors thus far identified. | | |